



TECHNOLOGY GUIDELINES FOR PARCC ASSESSMENTS VERSION 1.0 – APRIL 2012

Current updates and additional information are available at:
<http://www.parcconline.org/technology>

INTRODUCTION

The member states of the Partnership for the Assessment of Readiness for College and Careers (PARCC) are pleased to provide these technology guidelines to inform schools and districts as they make technology purchases to best meet the instructional needs of their students. The information in this document is intended to answer questions about whether new instructional hardware that schools may purchase to implement the Common Core States Standards, will also meet PARCC's 2014-15 requirements for the online test.

Important aspects of technology guidance for PARCC online assessments include:

Minimum Hardware Guidelines

- Hardware
- Operating Systems
- Networking
- Devices

Security Considerations

Bandwidth Recommendations

Testing Platform Software

Input Devices (Keyboard, Mouse, and Other Accessories)

The specifications contained in Version 1.0 of this document do not yet constitute the full list of technical requirements that will be necessary to administer PARCC online assessments in the 2014-2015 school year. PARCC will use the technology readiness surveys and assessment design processes currently underway, as well as the results of future field trials to shape the full and final list of requirements. A timeline for technology decisions is provided at the end of this document.

While the ongoing processes for assessment and technical platform design leave many parameters as yet unknown at the publishing of this document, *Technology Guidelines for PARCC Assessments Version 1.0* is intended to help states and districts inform their own readiness preparations and decision-making for both instruction and assessment. As test components are developed, piloted, and field tested, we will regularly update these guidelines to reflect current knowledge about what states will need to administer PARCC's online assessment components. The most current version of this document and most up-to-date information will be posted to <http://www.parcconline.org/technology>.

MINIMUM HARDWARE GUIDELINES

(Shared with Smarter Balanced Assessment Consortium – <http://smarterbalanced.org>)

Hardware that runs the latest Apple, Windows, and Google operating systems, and the most common versions of Linux, will be compatible with PARCC assessments in 2014-15. As a guideline, districts may consider the following as minimum specifications for new systems. These minimum hardware guidelines are meant to inform current and future purchasing decisions. As part of plans to support instruction, districts and schools may select computer systems that meet or exceed these guidelines and be confident that those

predating those specified or with processor capacities lower than recommended, cannot be guaranteed at this time. Further guidance will be described in Version 2.0 (Fall 2012) of this document.

Hardware:

- 1 GHz or faster processor
- 1 GB RAM or greater memory
- 9.5 inch (10 inch class) or larger screen size
- 1024 x 768 or better screen resolution

Operating Systems:

Mac 10.7	Windows 7	Linux (Ubuntu 11.10, Fedora 16)
Apple iOS	Android 4.0	Chrome OS

Networking: Must be able to connect to the Internet via either wired or wireless networking.

Devices: Desktops, laptops, netbooks (Windows, Mac, Chrome, Linux), thin client, and tablets (iPad, Windows, and Android) will be compatible devices provided they are configured to meet the established hardware, operating system, and networking specifications—and are able to address the security requirements described in the Security Considerations section of the Guidelines. Tablet usage for online assessment administration may also require the use of an external keyboard, or other input devices to be determined (see the Input Devices section of the Guidelines). Further requirements will be released with Version 3.0 (Fall 2013) of this document.

All hardware choices should first consider the instructional needs of schools and students. Some students may need hardware that exceeds these minimum guidelines, and some students may require qualitatively different hardware. Districts should rely on local expert judgments and discussions with appropriate authorities to determine the hardware that is most appropriate to deliver quality instruction, and to support individual students.

SECURITY CONSIDERATIONS

Eligible devices of any type or operating system must have the administrative tools and capabilities to “lock down” the device to temporarily disable features, functionalities, and applications that could present a security risk during test administration. These include, but are not limited to, Web browser access, cameras (still and video), screen capture (live and recorded), email, instant messaging, Bluetooth connections, application switching, and printing.

Ongoing discussions PARCC is having with manufacturers of the newest types of devices indicate that they understand the operational and security requirements of high stakes testing and are committed to having solutions in place for the launch of the PARCC assessments. Additional information about these devices will be updated via <http://www.parcconline.org/technology>.

BANDWIDTH RECOMMENDATIONS

Internet connectivity and wireless networking capacity requirements will be defined in Version 2.0 (Fall 2012) based on emerging designs for test items and the assessment delivery platform, and informed by the actual capacity data from the Technology Readiness Tool inventory (<http://www.techreadiness.org>).

TESTING PLATFORM SOFTWARE

Software requirements will be defined in Version 3.0 (Summer 2013), driven by the design choices for test items and the assessment delivery platform.

INPUT DEVICES (KEYBOARD, MOUSE, AND OTHER ACCESSORIES)

Determinations about allowable, unallowable, and/or required input devices—such as the use of a keyboard, mouse, or stylus— will be made available no later than Version 3.0 (Fall 2013), based upon item design and field testing phases. In addition, information about the technology accommodations that will be necessary for students with disabilities to equitably participate in online assessments will be a focus for research studies during piloting and field testing. The results of these studies will inform accommodations guidelines in Version 3.0 (Fall 2013). Similarly, test comparability for students using different input devices such as touch screens, virtual and physical keyboards, stylus, and touchpad or mouse will be evaluated during field trials. As a result, requirements could be issued, for example, to provide headphones for audio support or full-sized physical keyboards for use with tablets.

TECHNOLOGY DECISIONS TIMELINE

	SPRING 2012	FALL 2012	FALL 2013
Hardware	Version 1.0 establishes minimum guidelines for new hardware.	Version 2.0 will incorporate data from the Technology Readiness Tool inventory to define the oldest systems that will be supported for 2014-2015 assessments.	Version 3.0 will provide final guidelines for 2014-2015 assessments.
Security	Version 1.0 includes consideration of device security requirements.	Version 2.0 will update security considerations as necessary.	Version 3.0 will provide final security requirements for 2014-2015 assessments.
Bandwidth	Version 1.0 does not define specifications for bandwidth.	Version 2.0 will incorporate data from the Technology Readiness Tool inventory and the item/delivery platform design phases to define minimum bandwidth guidelines.	Version 3.0 will provide final bandwidth specifications for 2014-2015 assessments.
Software	Version 1.0 does not define specifications for testing software.	Version 2.0 will not define specifications for testing software.	Version 3.0 will provide final guidelines for 2014-2015 assessments based on test item and delivery platform designs.
Input Devices (Keyboard, Mouse, and Other Accessories)	Version 1.0 does not define specifications for input devices.	Version 2.0 will not define specifications for input devices.	Version 3.0 will provide final guidelines for keyboards and other input accessories for 2014-2015 assessments, based on item design and test comparability field trials.